

CLAIMS

What is claimed is:

1. A method for forming a semiconductor structure, the method comprising:
forming a patterned oxide layer over a substrate;
forming a USG layer on the patterned oxide layer and exposed portions of the substrate;
forming a BPSG layer on the USG layer;
forming a PE-TEOS layer over the BPSG layer; and
planarizing the PE-TEOS layer to form a pre-metal dielectric stack.
2. The method of claim 1 wherein the planarizing is accomplished by a chemical-mechanical polishing technique.
3. The method of claim 1, further comprising forming a TEOS layer on the planarized PE-TEOS layer.
4. The method of claim 1 wherein the BPSG layer is between approximately 2k to 8k angstroms thick.
5. The method of claim 1 wherein the USG layer is between approximately 1k to 4k angstroms thick.
6. The method of claim 1 wherein a total thickness of the oxide layer, the USG layer, the BPSG layer, and the planarized PE-TEOS layer is less than approximately 15k angstroms.

7. The method of claim 3 wherein the TEOS layer is between approximately 1k to 5k angstroms thick.

8. The method of claim 1, further comprising forming a PE-TEOS layer on the planarized PE-TEOS layer.

9. The method of claim 8 wherein the PE-TEOS layer is between approximately 1k to 5k angstroms thick.